WHAT IS CLAIMED IS

1. A rotation control method for rotating an optical recording medium at two or more kinds of rotational speeds, comprising the steps of:

(a) decreasing the rotational speed when a read or write margin becomes less than or equal to a first predetermined value or, when a frequency of generation of a servo abnormality of a tracking servo and/or a focus servo is greater than or equal to a first predetermined frequency; and

(b) increasing the rotational speed when the read or write margin becomes greater than or equal to a second predetermined value or, when the frequency of generation of the servo abnormality of the tracking servo and/or the focus servo is less than or equal to a second predetermined frequency.

2. The rotation control method as claimed in claim 1, wherein said steps (a) and (b) respectively control the rotational speed depending on a result of at least one of a test write process and a learning process which is carried out with respect to a read or write process.

3. The rotation control method as claimed in claim 2, wherein:

said step (a) detects that the read or write

margin is less than or equal to the first predetermined value when an optimum write power of a light source with respect to the optical recording medium obtained by the test write process exceeds a reference value; and

said step (b) detects that the read or write margin is greater than or equal to the second predetermined value when a margin greater than or equal to a predetermined value exists with respect to the reference value.

4. The rotation control method as claimed in claim 2, wherein said step (a) decreases the rotational speed when a read error rate improves at a write power exceeding an upper limit value of a write power obtained by the test write process or the learning process.

5. The rotation control method as claimed in claim 2, wherein said step (b) increases the rotational speed when the optimum write power obtained by the test write process or the learning process has a sufficient margin with respect to an upper limit value of the write power.

6. The rotation control method as claimed in claim 1, further comprising the step of:

(c) counting up a number of times a judgement

is made to decrease the rotational speed by said step (a) and counting down a number of times a judgement is made to increase the rotational speed by said step (b), and enabling said step (a) when a count reaches an upper limit value and enabling said step (b) when a lower limit value is reached.

7. The rotation control method as claimed in claim 6, wherein said step (c) counts a number of judgements made based on a result of a test write process with a weighting larger than a number of judgements made based on a result of a learning process which is carried out with respect to a read or write process.

8. The rotation control method as claimed in claim 2, further comprising the step of:

(c) measuring an amount of eccentricity of the optical recording medium,

said step (a) detecting that the read or write margin is less than or equal to the first predetermined value when the measured amount of eccentricity exceeds a reference value.

9. The rotation control method as claimed in claim 2, further comprising the step of:

(c) measuring an amount of eccentricity of the optical recording medium,

said step (a) switching a value of the first predetermined frequency depending on the measured amount of eccentricity.

10. A storage apparatus having a spindle motor which rotates an optical recording medium at two or more kinds of rotational speeds, comprising:

a first controller decreasing the rotational speed when a read or write margin becomes less than or equal to a first predetermined value or, when a frequency of generation of a servo abnormality of a tracking servo and/or a focus servo is greater than or equal to a first predetermined frequency; and

a second controller increasing the rotational speed when the read or write margin becomes greater than or equal to a second predetermined value or, when the frequency of generation of the servo abnormality of the tracking servo and/or the focus servo is less than or equal to a second predetermined frequency.

11. The storage apparatus as claimed in claim 10, wherein said first and second controllers respectively control the rotational speed depending on a result of at least one of a test write process and a learning process which is carried out with respect to a read or write process.

12. The storage apparatus as claimed in claim 11, wherein:

said first controller detects that the read or write margin is less than or equal to the first predetermined value when an optimum write power of a light source with respect to the optical recording medium obtained by the test write process exceeds a reference value; and

said second controller detects that the read or write margin is greater than or equal to the second predetermined value when a margin greater than or equal to a predetermined value exists with respect to the reference value.

13. The storage apparatus as claimed in claim 11, wherein said first controller decreases the rotational speed when a read error rate improves at a write power exceeding an upper limit value of a write power obtained by the test write process or the learning process.

14. The storage apparatus as claimed in claim 11, wherein said second controller increases the rotational speed when the optimum write power obtained by the test write process or the learning process has a sufficient margin with respect to an upper limit value of the write power.

15. The storage apparatus as claimed in claim 10, further comprising:

a counter counting up a number of times a judgement is made to decrease the rotational speed by said first controller and counting down a number of times a judgement is made to increase the rotational speed by said second controller, and enabling said first controller when a count reaches an upper limit value and enabling said second controller when a lower limit value is reached.

16. The storage apparatus as claimed in claim 15, wherein said counter counts a number of judgements made based on a result of a test write process with a weighting larger than a number of judgements made based on a result of a learning process which is carried out with respect to a read or write process.

17. The storage apparatus as claimed in claim 11, further comprising:

a measuring unit measuring an amount of eccentricity of the optical recording medium,

said first controller detecting that the read or write margin is less than or equal to the first predetermined value when the measured amount of eccentricity exceeds a reference value.

18. The storage apparatus as claimed in claim 11, further comprising:

a measuring unit measuring an amount of eccentricity of the optical recording medium,

said first controller switching a value of the first predetermined frequency depending on the measured amount of eccentricity.

19. A rotation control method for rotating an optical recording medium at two or more kinds of rotational speeds, comprising the steps of:

(a) decreasing the rotational speed when a power of a light irradiated on the optical recording medium exceeds a reference value; and

(b) increasing the rotational speed when the power of the light has a margin greater than a predetermined value with respect to the reference value.

20. A storage apparatus having a spindle motor which rotates an optical recording medium at two or more kinds of rotational speeds, comprising:

a first controller decreasing the rotational speed when a power of a light irradiated on the optical recording medium exceeds a reference value; and

a second controller increasing the rotational speed when the power of the light has a margin greater than a predetermined value with respect to the reference value.